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Do relationship transitions affect body weight?
Evidence from German longitudinal data

Abstract:
Despite a considerable amount of empirical studies it is still unclear if changes in union status affect body weight. Using data from the first seven waves of the German Panel Analysis of Intimate Relationships and Family Dynamics (pairfam) project, the current study aims to discover if changes in relationship status lead to changes in body weight considering multiple union transitions with fixed-effects panel regression estimations. Results show that women lose weight within the first year of a relationship, and then gain weight after entering into a non-married cohabiting relationship. Men tend to gain weight from the beginning of the partnership. The results clearly show that the transition from non-married cohabitation to marriage has no significant effect on body weight.

Key words: union transitions; body weight; marriage market hypothesis; Germany; pairfam

1. Introduction

Obesity is a major public health issue in most Western societies, with a rapidly increasing prevalence among both men and women (Berghöfer et al. 2008; Cole et al. 2000; Ogden...
et al. 2006). Germany ranks high on the list of nations with an elevated prevalence of overweight and obesity citizens. According to the German Health Interview and Examination Survey for Adults, 67.1% of men and 53.0% of women are overweight (Mensink et al. 2013). Being overweight or obese not only increases a person’s chance of health problems such as type two diabetes, cardiovascular disease, and some cancers (see for example Kopelman 2000), but obese individuals often experience multiple forms of discrimination (Carr/Friedman 2005; Puhl/Brownell 2001) as well as a lack of psychological well-being (Wadsworth/Pendergast 2014). Experts agree that weight changes — both losses and gains — carry an increased mortality risk (Mikkelsen et al. 1999), whereas a stable body weight is ideal for general good health (Umberson/Liu/Powers 2009). A better understanding of which factors determine changes in adult body weight is therefore crucial.

A growing body of literature indicates that transitions into and out of marriage may be related to changes in body weight (see Dinour et al. 2012 for an overview). Although there is a broad consensus that marital status is positively linked with health outcomes and mortality (see for example Wilson/Oswald 2005), the positive protection effect does not hold with regard to body weight (Umberson et al. 2009). However, these results are inconsistent and mostly limited to the United States, whereas research in Europe has addressed this topic only rarely thus far. Most studies suggest that the entry into marriage may be associated with weight gain (Averett/Sikora/Argys 2008; Harris/Lee/DeLeone 2010; Rauschenbach/Sobal/Frongillo 1995; Sobal/Rauschenbach/Frongillo 2003; The/Gordon-Larsen 2009), whereas exit from a marriage may contribute to weight loss (Eng et al. 2005; Lee et al. 2005). However, newer studies (Teachman 2016; Umberson et al. 2009) cast doubt as to if the transition into marriage in fact has an impact on body weight at all. Umberson et al. (2009) and Teachman (2016) conclude that the only transition which affects body weight is the transition out of marriage, while effects of transitions into marriage “are conditioned on a latent trajectory of weight gain across time” (Teachman 2016: 90).

This study aims to discover if changes in relationship status lead to changes in body weight considering multiple union transitions with fixed-effects panel regression estimations. This approach complements previous research in several ways: thus far, most literature refers to North America, whereas research in Europe has addressed this topic only rarely. To my knowledge, two further studies have examined the impact of marital status on body weight in Germany based on cross-sectional data (Klein 2011; Klein/Rapp/Schneider 2013), but to date no study has addressed this topic using longitudinal data for Germany. A recently published study compared BMI values of non-married to married respondents in nine European countries (Mata/Frank/Hertwig 2015). Their results show that, on average, never married respondents had a lower BMI than do married respondents. However, their analyses are based on cross-sectional data sets which could consequently be biased due to the presence of unobserved heterogeneity, as the authors do not deal with the problem of selectivity. This is essential when analyzing the link between unit transitions and body weight changes, as one could assume that selection into marriage is affected by body weight when considering that thinner (or rather: healthier) individuals are more likely to be selected as marriage partners (see Averett et al. 2008 for similar arguments). Indeed, research shows that overweight young women have higher odds to stay unmarried in comparison to their normal weight counterparts (Carmalt et al. 2008; Frisco et al. 2012:1709; Mukhopadhyay 2008).
By using longitudinal data from the German Panel Analysis of Intimate Relationships and Family Dynamics (pairfam), a large panel study running annually since 2008 with a random sample of 12,400 participants in adolescence, young adulthood, and middle adulthood (Brüderl et al. 2016), I address this gap in research for Germany. The pairfam data set provides detailed information about union formation and relationship development and due to the young age of the respondents there is enough variation in relationship status over time. For this reason, it is possible to examine multiple union transitions, such as both the transition into non-married cohabitation, as well as out of this state into a marriage. Most studies on this subject have focused only on the entry into marriage, whereas entry into unmarried cohabitation was paid little attention. The prevalence of non-married cohabitation has considerably increased in recent years in most Western societies (Heuveline/Timberlake 2004) as more and more couples are choosing to cohabit as either a precursor or an alternative to marriage (Wu/Hart 2002: 430). According to the pairfam Panel, 88% of respondents in western Germany and 97% of respondents in eastern Germany cohabit prior to marriage (Goldstein et al. 2010) Hence, to understand how union transitions affect changes in body weight it is important to take living arrangements before cohabiting marriage into account.

To my knowledge, this is the first study to investigate the impact of all relevant trajectories of institutionalization in partnership and examine the effects of transitions into non-cohabiting relationships, non-married cohabitation, and cohabiting marriage. Every unit transition is analyzed as a singular event in separate models using fixed effects models. In this analytic strategy, different estimation samples are employed, which are closer to the causal impact due to distinct control and treatment groups. Results show that the transition from non-married cohabitation to marriage has no effect on body weight. Moreover, women appear to lose weight within the first year of dating and then gain weight after moving in together with their partner, while men tend to gain weight from the very beginning of the relationship. Considering multiple union transitions can help highlight the underlying mechanisms which cause the hypothesized association between union transitions and body weight. The most prominent explanations in this regard are the marriage market hypothesis and the social obligation hypothesis, which I describe in the next section.

1 Two further explanations have been suggested: the marriage protective hypothesis and the crises model. The marriage protective hypothesis links marital and general health status: Married individuals have higher socioeconomic status and social support and purchase better medical health due to pooled resources and specialization by the family members (Wilson 2012). Further, individuals should lose weight after entry into marriage. However, to my knowledge, no study thus far has found such a positive relationship. Despite this, some authors indicate the possibility of adverse selection, meaning that individuals with poor health have higher incentives to marry (Averett et al. 2008). The crises model concerns primarily the negative consequences of marital dissolution on body weight based on the assumption that transition out of marriage is associated with stress resulting in short-lived weight loss.